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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
SMARTH, GERALD A	

ART UNIT	PAPER NUMBER
2478	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/784,957	YOO ET AL.	
	Examiner	Art Unit	
	GERALD SMARTH	2478	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *21 April 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8,13-17,20-24,29-32,39 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8,13-17,20-24,29-32,39 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/25/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. It is hereby acknowledged that 10/784957 the following papers have been received and placed of record in the file: Amended date 04/21/11

2. Claims 1, 4-8, 13-17, 20-24, 29-32, and 39-40 are presented for examination. Claims 1 and 17 are being amended.

Response to Arguments

3. Applicant's arguments filed 04/21/11 on have been fully considered but are not persuasive.

Applicant argues on page 8 and 9 remarks, Applicant disagrees that Choi in view of Fukunda and in further view of Omoigui does not teach the limitations of claim 1 and 17. More particular, Choi fails to teach: upon sensing the failure, re-synchronizing the first stream of data with the second stream of data on information for synchronization or resynchronization included in the second stream of data".

Firstly, Choi's paragraph [0005] recites that Choi's invention includes a "method of streaming media content from a server to at least one client. In particular, the invention includes server software executing on the server communicating with client software executing on the client. If the streaming is interrupted, the server software and the client software exchange messages to re-map a state of the client and re-synchronize playback of the content."

However, this paragraph is merely the opening paragraph of the Summary Of Invention portion of Choi's disclosure. This paragraph does not clarify just what is being re-mapped and

resynchronized. Indeed, a careful reading of the Detailed Description of Choi reveals no specific details that would support a finding that what is being re-synchronized is a) a first stream with a second stream, let alone b) a first stream with a second stream based on information for synchronization or re-synchronization included in the second stream of data. Instead, in Choi, there is only one stream of data from a server to a client and, when that stream is interrupted or disconnected, the client sends a reconnection of that one stream with the client.

Examiner respectfully disagrees. In response, to Applicant's arguments, Examiner points to Choi disclosing if the server 108 was streaming live content (e.g., directly from the encoder 102) prior to the session failure, the client player UI may not receive and render the content that was streamed during the reconnection process. If the reconnection process occurred relatively quickly, the server 108 may have buffered a small amount of the live content, and will deliver that buffered content to the client 110 if reconnection is successful. As such, a user may experience minimal disruption in the playback; (see paragraph [28]). This clearly explains reproducing a stream with a second stream such that it is part of the playback. Along with Choi's cited paragraph [005], Choi's buffering further explains synchronizing as well in order to have near real-time streaming (see paragraph [29], [52]). Further Choi explains playback request to identify failed sessions (see paragraph [53]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4-8,17, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi (US 2003/02369005) in view of Raman(US 6910078) and in further view of Omoigui (US 7237254),

Regarding claim 1, Choi teaches a method of reproducing, by a content reproducing device, content information stored on a recording medium the method comprising:
reproducing a first stream of data read out from the recording medium in synchronization with a second stream of data received from a Content providing server over a network(**Choi discloses if the streaming is interrupted, the server software and the client software exchange messages to re-map a state of the client and re-synchronize playback of the content; Paragraph [005], see paragraph [28], [49]**)based on a first command sent from the content reproducing device to the content providing server, (**Choi discloses the method further includes receiving, by the client, the streamed media content from the server. The method includes sending a reconnect request from the client to the server if the streaming is interrupted; see paragraph [008]**) the first stream of data comprising audio/video data(**see paragraph [29]**) and the second data comprising content data to be reproduced in synchronization with the first stream of data; (**Paragraph [11], also see paragraph [28]**) sensing a failure in receiving the second stream of data; (**Choi discloses the server component and the client component include computer-executable instructions for exchanging one or more messages to re-map the state of the client and to re-synchronize playback of the content if the streaming is interrupted; Paragraph [11], also see paragraph [28]**) upon sensing the failure, re-synchronizing the first stream of data stream of with the second data based on information for synchronization or re-

synchronization included in the second stream of data, **(Choi discloses If the streaming is interrupted, the server software and the client software exchange messages to re-map a state of the client and re-synchronize playback of the content; Paragraph [005], [28], [52], [53])**

Choi does not explicitly disclose wherein the information included in the second stream of data includes data rate information of the second stream of data and/or size information of the second stream of data

However Raman does teach wherein the information included in the second stream of data includes data rate information of the second stream of data and/or size information of the second stream of data. **(Raman discloses where NPT is the cumulative normal play time, and bandwidth_setting is the current value of the bandwidth setting at the time of calculation (i.e., the bandwidth setting between bandwidth rate change events), and data_bytes is the current total number of bytes of information transmitted during this "step" or bandwidth setting (i.e., since the last horizontal change in the graph) and wherein header_overhead is the percentage of overhead information associated with the total data bytes; see column 17 lines 20-35, see also column 7 lines 26-42, column 14 lines 29-66)**

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Choi's system for automatically recovering form failed network connections in streaming media scenarios to include Raman's methods and apparatus for controlling the transmission of stream data. One of ordinary skill in the art would have been

motivated to make this modification in order to have a method which provides for redundancy of servers while being able to provide near real time streaming even when there is a failure.

The modified Choi does not explicitly disclose simultaneously and synchronously reproducing the first stream of data together with the second stream of data,

However Omoigui does teach thereby simultaneously and synchronously reproducing the first stream of data together with the second stream of data **(Omoigui discloses the individual media streams have their own timelines, which are synchronized with each other so that the media streams can be rendered simultaneously for a coordinated multimedia presentation. The individual timelines define the timeline of the composite stream; see Column 6 lines 4-9, for data rate also see Column 12 lines 37-42)**

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Choi and Raman to include Omoigui's seamless switching between different playback speeds of time-scale modified data streams. One of ordinary skill in the art at the time of the invention would have been motivated to make this modification in order to have a streaming system which allows for a more efficient way to alter speeds of streams. See Omoigui column 1 lines 62- column 2 lines 10.

Regarding claim 4, the modified Choi taught the method according to claim 1, as described above. Choi further teaches wherein the information is contained within a header of the second stream of data. **(Choi discloses when the distribution connection recovers, the server software 11sends another stream header before streaming the content; Page 7 paragraph**

93 lines 6-8)

Regarding claim 5, the modified Choi taught the method according to claim 1, as described above. Choi further teaches wherein the sensing

step includes sensing whether the failure in receiving the second data is due to a disconnection or a delay of transmission of the second stream of data over the network. **(Choi discloses the method further includes receiving, by the client, the streamed media content from the server. The method includes sending a reconnect request from the client to the server if the streaming is interrupted; Page 2 paragraph 8 lines 7-13)**

Regarding claim 6, the modified Choi taught the method according to claim 1, as described above. Omoigui also teaches further comprising:

delaying a time for re-synchronization, wherein during the re-synchronization delay the first stream of data is reproduced, and the second stream of data is muted and not reproduced. **(Omoigui discloses thus, client 104 is able to render the streams at the new playback speed with very little (if any) noticeable delay and little or no noticeable break or pause between the user's submission of the new playback speed and the actual rendering at the new playback speed; Column 12 lines 51-55)**

Regarding claim 7, the modified Choi taught the method according to claim 1, as described above. Omoigui also teaches further comprising:

delaying a time, for re-synchronization, wherein during the re-synchronization delay the first

stream of data is reproduced, and an interpolated second stream of data is reproduced. **(Omoigui discloses the invention switches between these different playback speeds in a seamless manner, advantageously reducing breaks and/or delays between the time the user selects the new playback speed and the time the multimedia content begins being played back at the new speed; Column 15 lines 35-40)**

Regarding claim 8, the modified Choi taught the method according to claim 1, as described above. Omoigui also teaches further comprising: delaying a time for re-synchronization, wherein during the re-synchronization delay the first stream of data is reproduced, and a previous segment of the second stream of data is reproduced. **(Omoigui discloses the invention switches between these different playback speeds in a seamless manner, advantageously reducing breaks and/or delays between the time the user selects the new playback speed and the time the multimedia content begins being played back at the new speed; Column 15 lines 35-40)**

Regarding claim 17, Chen teaches an apparatus for reproducing content information-comprising: a renderer configured to reproduce a first stream of data read out from a recording medium in synchronization with a second stream of data received from a content providing server**(Choi discloses if the streaming is interrupted, the server software and the client software exchange messages to re-map a state of the client and re-synchronize playback of the content; Paragraph [005])** over a network based on a first command, **(Choi discloses the method further includes receiving, by the client, the streamed media content from the server. The method includes sending a reconnect request from the client to the server if the**

streaming is interrupted; Page 2 paragraph 8 lines 7-13) the first stream of data comprising audio/video data(**see paragraph [29]**) and the second data comprising content data to be reproduced in synchronization with the first stream of data; **(Paragraph [11], also see paragraph [28])** and a processor configured to sense a failure in receiving tile second stream of data **(Choi discloses the server component and the client component include computer-executable instructions for exchanging one or more messages to re-map the state of the client and to re-synchronize playback of the content if the streaming is interrupted; Paragraph [11])** upon sensing the failure, re-synchronizing the first stream of data stream of with the second data based on information for synchronization or re- synchronization included in the second stream of data, **(Choi discloses If the streaming is interrupted, the server software and the client software exchange messages to re-map a state of the client and re-synchronize playback of the content; Paragraph [005], [28], [52], [53])**

Choi does not explicitly disclose wherein the information included in the second stream of data includes data rate information of the second stream of data and/or size information of the second stream of data

However Raman does teach twherein the information included in the second stream of data includes data rate information of the second stream of data and/or size information of the second stream of data. **(Raman discloses where NPT is the cumulative normal play time, and bandwidth_setting is the current value of the bandwidth setting at the time of calculation (i.e., the bandwidth setting between bandwidth rate change events), and data_bytes is the current total number of bytes of information transmitted during this "step" or bandwidth setting (i.e., since the last horizontal change in the graph) and**

wherein header_overhead is the percentage of overhead information associated with the total data bytes; see column 17 lines 20-35, see also column 7 lines 26-42, column 14 lines 29-66)

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Choi's system for automatically recovering form failed network connections in streaming media scenarios to include Raman's methods and apparatus for controlling the transmission of stream data. One of ordinary skill in the art would have been motivated to make this modification in order to have a method which provides for redundancy of servers while being able to provide near real time streaming even when there is a failure.

The modified Choi does not explicitly disclose simultaneously and synchronously reproducing the first stream of data together with the second stream of data,

However Omoigui does teach thereby simultaneously and synchronously reproducing the first stream of data together with the second stream of data **(Omoigui discloses the individual media streams have their own timelines, which are synchronized with each other so that the media streams can be rendered simultaneously for a coordinated multimedia presentation. The individual timelines define the timeline of the composite stream; see Column 6 lines 4-9, for data rate also see Column 12 lines 37-42)**

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Choi and Raman to include Omoigui's seamless switching between different playback speeds of time-scale modified data streams. One of ordinary skill in the art at the time of the invention would have been motivated to make this modification in order to have

a streaming system which allows for a more efficient way to alter speeds of streams. See Omoigui column 1 lines 62- column 2 lines 10.

Regarding claim 20, the modified Choi taught the apparatus according to claim 17, as described above. Choi further teaches wherein the information is contained within a header of the second stream of data. **(Choi discloses when the distribution connection recovers, the server software 11sends another stream header before streaming the content; Page 7 paragraph 93 lines 6-8)**

Regarding claim 21, the modified Choi taught, the apparatus according to claim 17, as described above. Choi also teaches wherein the processor is configured to determine whether the failure is due to a disconnection or a delay of transmission of the second stream of data over the network. **(Choi discloses the method further includes receiving, by the client, the streamed media content from the server. The method includes sending a reconnect request from the client to the server if the streaming is interrupted; Page 2 paragraph 8 lines 7-13)**

Regarding claim 22, the modified Choi taught the apparatus according to claim 17, as described above. Omoigui further teaches wherein the processor is configured to delay a time for re-synchronization, and control such that during the-re- synchronization delay the first stream of data is reproduced, and the second stream of data is muted and not reproduced, during the re-synchronization delay. **(Omoigui discloses thus, client 104 is able to render the streams at the**

new playback speed with very little (if any) noticeable delay and little or no noticeable break or pause between the user's submission of the new playback speed and the actual rendering at the new playback speed; Column 12 lines 51-55)

Regarding claim 23, the modified Choi taught the apparatus according to claim 17, as described above. Omoigui further teaches wherein the processor is configured to delay a time for resynchronization, and control such that during the resynchronization delay the first stream of data is reproduced, and an interpolated second stream of data is reproduced, during the re-synchronization delay. **(Omoigui discloses the invention switches between these different playback speeds in a seamless manner, advantageously reducing breaks and/or delays between the time the user selects the new playback speed and the time the multimedia content begins being played back at the new speed; Column 15 lines 35-40)**

Regarding claim 24, the modified Choi taught the apparatus according to claim 17, as described above. Omoigui further teaches wherein the processor is configured to delay a time for resynchronization, and control such that during resynchronization delay-the first data is reproduced, and a previous segment of the second stream of data is reproduced, during the re-synchronization delay. **(Omoigui discloses in embodiments where server 102 includes an intelligent data transfer mechanism to detect the rate at which client 104 is accepting data, client 104 and server 102 eventually resynchronize (step 310).; Column 12 lines 51-55)**

Regarding claim 39, the modified Choi taught the method according to claim 1, as described

above. Choi further teaches wherein the step of reproducing comprises: buffering the second stream of data prior to synchronization. **(Choi discloses if the reconnection process occurred relatively quickly, the server 108 may have buffered a small amount of the live content, and will deliver that buffered content to the client 110 if reconnection is successful; Page 3 paragraph 28 lines 10-14)**

6. Claims 13-16, 29-32, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi (US 2003/02369005) in view of Raman(US 6910078) in view of Omoigui (US 7237254) and in further view of Fukunda(US 937138),

Regarding claim 13, the modified Choi taught the method according to claim 1, as described above.

The modified Choi does not explicitly teach the modified explicitly calculating an offset value for the second stream of data to establish re-synchronization;

sending a second command requesting transmission of the second stream of data corresponding to the calculated offset value from the content producing device to the content providing server ;

However Fukunda does teaches wherein said re-synchronization step includes:

the modified explicitly calculating an offset value for the second stream of data to establish re-synchronization; **(see Fukunda column 43 lines 10-13, column 26 lines 40-57)**

sending a second command requesting transmission of the second stream of data corresponding to the calculated offset value from the content producing device to the content providing server ;

(Fukunda discloses the audio start gap A_STGAP is the time offset between the start of the audio and video presentation at the beginning of a VOB. This is a useful parameter for declaring seamless reproduction with the preceding encoded system stream; column 43 lines 10-13)

and re-synchronizing the second stream of data transmitted in response to the second command with the first stream of data read out from the recording medium. **(see Fukunda column 43 lines 10-13, column 26 lines 40-57)**

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Choi, Raman, Omoigui with Fukunda's method and an apparatus for system encoding bitstreams for seamless connection. One of ordinary skill in the art would have been motivated to make this modification in order to have a more efficient and seamless reproduction method/system which will reduce overflow or underflow of video buffering. See Fukunda lines 31-37.

Regarding claim 14, the modified Choi taught the method according to claim 13, as described above. Fukunda further teaches wherein said calculating step is based on a present playing time of the first stream of data and a number of bytes per second of the second stream of data.**(Fukunda discloses A video stream equal in length to the specified presentation time is thus decoded by the video decoder 3800, which outputs the reproduced video signal St104 to the synthesizer 3500; column 12 lines 50-53)**

Regarding claim 15, the modified Choi taught the method according to claim 14, as described above. Fukunda further teaches wherein the offset value of the
second data capable of re-synchronization is calculated by adding the present playing time of the first stream of data to a predetermined amount of time to produce a result and multiplying the result by the number of bytes per second of the second stream of data.(**Fukunda in addition, there are cases in which the final buffer occupancy during first video stream encoding exceeds the initial buffer occupancy of the second video stream. In such cases, a decoding buffer overflow may occur at some indeterminate time during the coding process; see column 3 lines 12-20**)

Regarding claim 16, the modified Choi taught the method according to claim 15, as described above. Fukunda further teaches wherein the predetermined amount of time is proportional to a speed of the second stream of data being transferred over the network. (**Fukunda in addition, there are cases in which the final buffer occupancy during first video stream encoding exceeds the initial buffer occupancy of the second video stream. In such cases, a decoding buffer overflow may occur at some indeterminate time during the coding process; see column 3 lines 12-20**)

Regarding claim 29, the modified Choi taught the apparatus according to claim 17, as described above. Fukunda and Omoigui further teaches wherein said processor, is configured to re-synchronize the first stream of data and second stream of data, calculating an offset value for the second stream of data to establish re-synchronization sending a second data corresponding to the

calculated offset value to the Content providing server; **(Fukunda discloses the audio start gap A_STGAP is the time offset between the start of the audio and video presentation at the beginning of a VOB. This is a useful parameter for declaring seamless reproduction with the preceding encoded system stream; column 43 lines 10-13)** and re-synchronizing the second stream of data transmitted in response to the second command with the first stream of data read out from the recording medium. . **(see Fukunda column 43 lines 10-13, column 26 lines 40-57)**

Regarding claim 30, the modified Choi taught the apparatus according to claim 29, as described above. Fukunda further teaches wherein said processor is configured to use a present playing time of the first stream of data and a number of bytes per second stream of the second data, when calculating the offset value, **(Fukunda discloses the audio start gap A_STGAP is the time offset between the start of the audio and video presentation at the beginning of a VOB. This is a useful parameter for declaring seamless reproduction with the preceding encoded system stream; column 43 lines 10-13)**

Regarding claim 31, the modified Choi taught the apparatus according to claim 30, as described above. Fukunda furher teaches wherein the offset value is calculated by said pr the modified Choi of the first stream of data to a predetermined amount of time to produce a result and multiplying the result by the number of bytes per second of the second stream of data. **(Fukunda in addition, there are cases in which the final buffer occupancy during first video stream encoding exceeds the initial buffer occupancy of the second video stream. In such cases, a**

decoding buffer overflow may occur at some indeterminate time during the coding process; see column 3 lines 12-20)

Regarding claim 32, the modified Choi taught the apparatus according to claim 31, as described above. Fukunda further teaches wherein the predetermined amount of time is proportional to a speed of the second stream of data being transferred over the network. **(Fukunda in addition, there are cases in which the final buffer occupancy during first video stream encoding exceeds the initial buffer occupancy of the second video stream. In such cases, a decoding buffer overflow may occur at some indeterminate time during the coding process; see column 3 lines 12-20**)

Regarding claim 40, the modified Choi taught the apparatus according to claim 17, as describe above. Fukunda further teaches comprising: a buffer configured to buffer the second stream of data prior to synchronization. **(Fukunda in addition, there are cases in which the final buffer occupancy during first video stream encoding exceeds the initial buffer occupancy of the second video stream. In such cases, a decoding buffer overflow may occur at some indeterminate time during the coding process; see column 3 lines 12-20**)

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Smarth whose telephone number is (571)270-1923. The examiner can normally be reached on Monday-Friday(7:30am-5:00pm)est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. S./

Examiner, Art Unit 2478

/Kenny S Lin/

Primary Examiner, Art Unit 2478